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ABSTRACT

Developed to assess congruence of intent and practice (the teacher's ideal and students' perceived real) in instruction of the gifted in the Illinois program, the Class Activities Questionnaire (CAQ) includes 25 forced choice items evaluating cognitive emphasis, classroom conditions, and student attitudes and reactions. Cognitive items were shown to be consistently identified with the appropriate level of the taxonomy of intellectual abilities. Field testing indicated that the CAQ could be used with grade 6 and above. Intercorrelation, factor, and reliability analyses demonstrated the CAQ to be an adequate instrument. Scoring procedures and interpretation are explained for each of the three areas evaluated. (JD)

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Dimensions of

THE CLASS ACTIVITIES QUESTIONNAIRE

Joe M. Steele

Illinois Gifted Program Evaluation

Center for Instructional Research and Curriculum Evaluation

University of Illinois

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October 1969

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I. PURPOSE AND USES OF THE CLASS ACTIVITIES QUESTIONNAIRE

The Class Activities Questionnaire (CAQ) was developed to obtain information concerning cognitive, behavioral, and affective activities the teacher intended and students perceived actually occurring in the classroom or special program. While administered as a single instrument, the cognitive factors are scored separately from the factors dealing with classroom conditions and students' attitude toward the class. The CAQ is actually three separate instruments assessing (1) Cognitive Emphasis, (2) Classroom Conditions (related to the behavioral domain), and (3) Strengths and Weaknesses of the class perceived by students. Each of these dimensions of the CAQ will be discussed in the sections which follow. (See Appendix A for a copy of the CAQ.)

The CAQ was originally developed as part of an evaluation procedure to determine how fully the intentions held for a course are put into practice.* It has been revised to be suitable for use in public school classrooms down through grade six. While the complete evaluation procedure has thus been made applicable to school settings from junior high through college, the CAQ is judged to provide valuable information in its own right.

The intended users of the instrument are teachers and supervisors interested in clarifying and improving their instructional program. In order for the results of the CAQ to be used meaningfully, some orientation and training is necessary. It would be inappropriate to simply judge

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*Joe M. Steele, Things As They Are: An Evaluation Procedure to Assess Intent and Practice in Instruction. Unpublished doctoral dissertation, Urbana: University of Illinois, 1969.

teachers or their classes as good or bad based on this instrument. Instead, decisions should be related to (1) the value and emphasis placed on various goals, and (2) the extension or revision of activities to better accomplish desired goals. Training would focus on the specific goals held by the teacher and what thinking operations they imply. Additional activities that involved such cognitive operations would be sought.

The CAQ is currently being used to assess gifted programs supported by the Illinois Department of Program Development for Gifted Children. Emphasis on higher thought processes and positive classroom conditions in groups of gifted classes are compared to the kinds of emphasis found in average classes.* In addition, it is possible to determine whether a cohesive program has been implemented in a specific school district by looking for similar patterns of emphasis across classes in the program.

The CAQ might also be used to obtain a general picture of the instructional climate of a particular school or district. Results could form the basis for a long-range program of in-service training.

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*For results of this application of the CAQ, see Joe M. Steele, et al., Instructional Climate in Illinois Gifted Classes, Illinois Gifted Program Evaluation, Center for Instructional Research and Curriculum Evaluation, University of Illinois, Urbana, in press.

II. LEVELS OF COGNITIVE EMPHASIS

The cognitive factors of the CAQ are keyed to the seven levels of the Taxonomy of Intellectual Abilities adapted from Bloom's Taxonomy by the writer. These seven cognitive levels are shown in Figure 1. They are felt to be inclusive of student behaviors related to thinking operations. They are hierarchical in nature: each higher level requires and includes the use of lower thinking operations.

The seven cognitive factors of the CAQ are composed of 14 short statements describing possible cognitive activities. Response is made in terms of how well each sentence describes what is stressed in the class. Responses are made in terms of Strongly Agree, Agree, Disagree, or Strongly Disagree. The CAQ is administered to both instructors and students. When administered to all students in a class, the mean and distribution of response indicates the perceived emphasis on the various dimensions described. This measure is called the Perceived Real. It represents an index of the instructor's actual practices insofar as they are perceived by the students as a group. When administered to instructors, each is asked to mark the responses he would ideally like his class to give him. This measure is called the instructor's Ideal. It represents an index of the teacher's intended pattern of cognitive emphasis. Comparison of the instructor's Ideal with his students' Perceived Real provides a measure of congruence of intent and practice in instruction.

Scoring Procedures

For each of the seven cognitive levels, statements which express roughly the same concept are paired. (See Figure 2.) By matching

FIGURE 1

TAXONOMY OF INTELLECTUAL ABILITIES
(Adapted from Bloom's Taxonomy by Joe M. Steele)

I. MEMORY

Recall, recognition, bringing to mind of any kind of information. Some alteration of the material may be required, but this is a minor part of the task. Memory involves the ability to reproduce or recognize information as it was presented.

II. TRANSLATION

Changing information into a different symbolic form to express the same idea, such as the use of paraphrasing, pictures, graphs, summaries, outlines, or statements in technical or layman's language. It also includes the use of metaphor, symbolism, and other non-literal statements. Translation involves the ability to comprehend information, including recasting or altering it in various ways.

III. INTERPRETATION

Discovering and exploring the interrelationships among ideas (on a common-sense level). Comparing, contrasting, and explaining information based on the new view the perceived relationships provide. The task may require going beyond the given data in making inferences, predicting trends, and determining implications and consequences. Interpretation involves the ability to extend and manipulate information to clarify relationships suggested by the data or to project trends based on patterns apparent in the data.

IV. APPLICATION

Utilizing abstractions (generalizations, rules, skills) in concrete situations. Selecting and applying rules or methods to solve a specific problem, usually with a minimum of direction or prompting as to which abstractions apply or how to use them. This kind of task gives practice in the independent use of knowledge and skills, requiring the identification of the issue as well as selection and use of the correct abstractions to solve problems in practical settings. Application involves the ability to select the methods or generalizations called for by specific problem situations and perform the operations required to solve the problem.

V. ANALYSIS

Conducting a methodical inquiry into the structure of material and the nature of its interrelationships, applying the appropriate rules of reasoning. Analysis includes the ability to recognize unstated assumptions, distinguish facts from hypotheses and normative statements, and check for logical consistency. Analysis involves the ability to break down material into its structural components to test the validity of statements, arguments, and conclusions.

VI. SYNTHESIS

Recombining parts of previous experience with new material into a new integrated whole, pattern, or structure not clearly there before. Synthesis implies a new product requiring original, creative thinking. This can take the form of a unique communication involving skill in writing or speaking; a proposed set of operations, such as ways of testing hypotheses or developing an effective plan to solve a complex problem; or the derivation of abstract relations, as in making generalizations or mathematical discoveries. Synthesis involves the ability to generate new ideas and solutions: inventing, designing, composing, creating.

VII. EVALUATION

Clarifying and using a standard of appraisal in making judgments about the value of materials or methods for given purposes. In making judgments of good or bad, right or wrong, the standards or criteria used should be made explicit. This category forms a major link with the affective domain where values, liking, and enjoying are central processes. Evaluation is always somewhat subjective because either the standard cannot be proven to be correct or the idea to be judged cannot be proven to violate or illustrate the standard. Evaluation involves the ability to develop and apply a set of standards for judging worth, and to support the judgments with a justification or rationale based on the criteria used.

Figure 2

PAIRED ITEMS FOR COGNITIVE FACTORS OF THE CAQ

Factor I: Memory

1. Remembering or recognizing information is the student's main job.
10. Great emphasis is placed on memorizing.

Factor II: Translation

9. Restating ideas in your own words is a central concern.
21. Great importance is placed on explaining and summarizing what is presented.

Factor III: Interpretation

6. Students are expected to go beyond the information given to see what is implied.
16. Students are expected to read between the lines to find trends and consequences in what is presented.

Factor IV: Application

3. Students actively put methods and ideas to use in new situations.
13. A central concern is practicing methods in lifelike situations to develop skill in solving problems.

Factor V: Analysis

7. Great importance is placed on logical reasoning and analysis.
12. Using logic and reasoning processes to think through complicated problems (and prove the answer) is a major activity.

Factor VI: Synthesis

11. Students are urged to build onto what they have learned to produce something brand-new.
23. Inventing, designing, composing, and creating are major activities.

Factor VII: Evaluation

2. A central activity is to make judgments of good/bad, right/wrong, and explain why.
20. The student's major job is to make judgments about the value of issues and ideas.

responses of the same individual to the members of each pair of statements, the consistency of response can be ascertained. The function of this procedure is to provide a measure of the degree to which students are certain of their opinions regarding each cognitive level. If students do not understand a category or do not have a formed opinion regarding it, it is unlikely that they would all answer both members of a pair in the same way. An equal number of consistent and inconsistent responses are likely to occur by chance. In addition, no clear-cut direction of response is likely. In order for a factor to be scored, two-thirds of the class must show a consistent response to the pair of items concerned. This scoring system is similar to that used by Pace and by Sinclair in environmental press instruments using student perceptions.

The criterion was adopted that a clear-cut direction of response required fifty percent or more of the students agreeing or disagreeing with both statements. This scoring system provides the pattern of cognitive emphasis practiced by the instructor as students perceive him. To facilitate analysis, responses can be dichotomized to indicate simply agree or disagree. Figure 3 illustrates this method of scoring. This scoring procedure provides a check to determine whether students' responses are consistent, unimodal, and unambiguous.

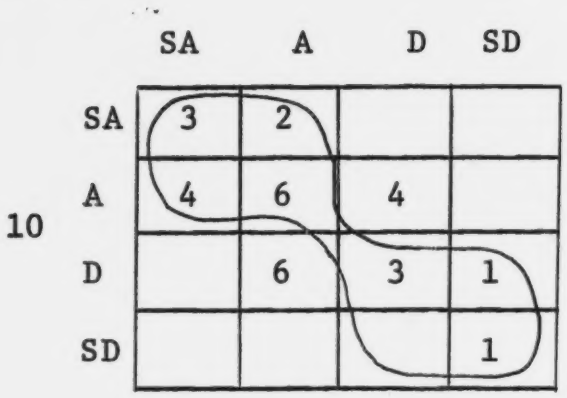
A second scoring system is based on a weighted point system from which mean student scores are computed. The items are weighted under the assumption that students who indicate strong responses to items should be differentiated from those whose responses are more moderate. The weights also differentiate those items to which students react more extremely. The values of one through four were assigned to the scale

Figure 3

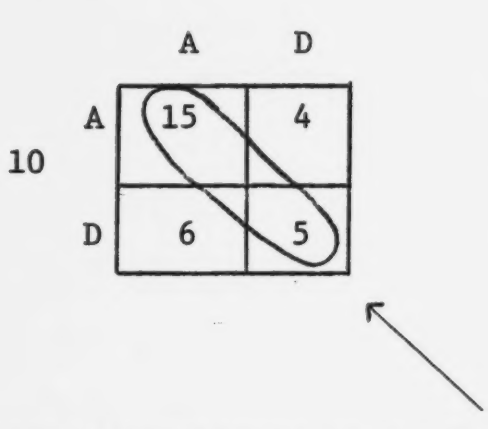
ILLUSTRATION OF SCORING PROCEDURES FOR COGNITIVE FACTORS OF THE CAQ
(Fictitious Data: N=30)

First Scoring Procedure: Consistency and Direction of Response

Factor I (Memory)
Complete Response Scale



Factor I
Dichotomized Data
(Response categories collapsed to indicate only agree-disagree)



Diagonal indicates consistent response

2/3 of class (20) show a consistent response (agreeing or disagreeing with both statements)

1/2 of class (15) agree with both statements, indicating a clear-cut group perception of emphasis on this cognitive level

Second Scoring Procedure: Mean of Weighted Responses

Responses:	Strongly Agree	Agree	Disagree	Strongly Disagree
Weights:	1	2	3	4

Item 1 mean student response = 2.13
Item 10 mean student response = 2.23

Mean response to Factor I = 2.18 (Clear emphasis perceived)

Item 1 instructor ideal = 3
Item 10 instructor ideal = 4

Mean instructor ideal for Factor I = 3.5 (Strong deemphasis intended)

positions strongly agree to strongly disagree in that order. Mean scores approaching 1.00 indicate positive attitudes toward statements and scores falling towards 4.00 indicate negative attitudes. A mean score approaching 2.50 is interpreted to indicate that these statements received little emphasis or had no bearing on the course. The range of scores from 2.25 to 2.75 is considered to fall in this neutral zone. Figure 3 also illustrates this scoring procedure. This second method of scoring provides a measure of strength of response and facilitates comparison of the instructor's and students' cognitive profiles.

A third method of scoring provides a summary of cognitive emphasis. The seven cognitive factors can be divided into lower and higher thinking abilities. Lower cognitive levels are Memory, Translation and Interpretation (Levels I, II, and III). Higher thought processes are defined by the remaining four levels: Application, Analysis, Synthesis, and Evaluation (Levels IV, V, VI, and VII). Mean scores for emphasis on higher and lower thought processes can thus be obtained.

This third procedure is not used to make judgments about individual classes. Instead, it provides a means of comparing classes or groups of classes. Differences in emphasis among programs or schools can be statistically tested to see if they represent real or chance variations in scores. The t-test is used to test the significance of the differences. The mean scores obtained as summary scores are interpreted in the same manner as indicated in the second scoring procedure above.

Interpretation

In looking at the individual classroom it is felt inappropriate to assume that a positive score on each cognitive level is the "right" answer.

The balance of emphasis across the seven cognitive levels depends upon the nature of the course and the instructor's purposes. However, a course emphasizing only the highest level would likely prove extremely frustrating to students unless it was a highly select group. Conversely, a course emphasizing only the lowest level would tend to be extremely boring and tedious. An instructor might find it next to impossible to emphasize each of the seven levels. It is felt that emphasis given to at least two or more thought processes would seem to provide the healthiest learning situation.

A balance of emphasis between lower and higher levels is felt to be most appropriate. Strong emphasis on only one level or total emphasis on only lower thinking operations (Levels I, II, and III) suggests an inappropriate course design. A profile showing no clear-cut emphasis at any cognitive level suggests a lack of attention to the cognitive dimension of instruction or possibly inconsistent teacher behavior.

As previously noted, it is possible to determine the match (congruence) between the instructor's intended cognitive emphasis (Ideal) and his actual emphasis (Perceived Real). In the example used in Figure 3, assume that the instructor's Ideal for items one and ten combined (the Memory factor) is 3.5, indicating strong disagreement with emphasis on this factor. Comparison with the students' mean score of 2.18 (indicating a clear emphasis perceived), plainly suggests that an incongruity exists between what the instructor intends and his perceived behavior. The instructor definitely did not want to emphasize Memory but was perceived to be stressing it.

It is also possible to obtain some measure of the instructor's awareness of his actual behavior and how he is being perceived by students.

This can be accomplished by asking the teacher to respond to the CAQ a second time, predicting the responses he expects his class as a group will actually make to each item. This Predicted Real should correlate highly with the Real if the teacher is sensitive both to what he is actually doing in class and to the way his presentation is being "received" by students.

In the case of both the teacher's Ideal and Predicted Real, an item by item comparison with the Real should be made. Large differences should be studied by the teacher to determine possible reasons for the discrepancy.

When there is consistency of student response but a lack of clear direction of response, this may also indicate confusing teacher behavior. However, it could instead indicate that students are clear about their perception of class activities but are responding differentially. Possibly different kinds of students perceive the same situation differently. An alternate possibility is that the teacher treats different groups within the class differentially. Such response patterns occur infrequently and it is not yet possible to clearly ascertain their meaning.

III. CLASSROOM CONDITIONS

The Classroom Conditions section of the CAQ assesses several noncognitive dimensions of the classroom. These factors are concerned with the following conditions and emphases:

1) Opportunity for or tolerance of divergent thinking (as opposed to convergent thinking patterns).

2) Discussion opportunity and student involvement in class discussion.

3) Student enthusiasm and excitement with class activities.

4) The degree to which independence and student initiative are tolerated or encouraged.

5) Undue stress on test performance and grades.

6) Emphasis on lecture and a passive listening role for students (as opposed to doing other things than listening).

7) The degree to which humor and laughter is characteristic of the class.

8) An estimate of the average amount of teacher talk in class.

9) An estimate of the average amount of homework performed weekly.

Figure 4 shows paired items for Classroom Conditions factors as well as those items scored independently.

Scoring Procedures

Three of the conditions listed above (2, 5, and 6) are composed of paired items and scored similarly to the cognitive factors. Consistency and direction of response are determined. The divergence, enthusiasm, independence, and humor dimensions (1, 3, 4, and 7 above) are assessed by single items. In addition, students are asked to estimate the amount of time the teacher talks by circling one of six percentages (90, 75, 60, 40, 25, 10%). The median student response is used as the class estimate.

Figure 4

CLASSROOM CONDITIONS FACTORS BASED ON PAIRED ITEMS AND SINGLE ITEMS OF THE CAQ

Paired Items:

Factor 9: Discussion Opportunity/Involvement
5. The class actively participates in discussions.
*15. There is little opportunity for student participation in discussions.

Factor 12: Test/Grade Stress
8. The student's job is to know the one best answer to each problem.
22. There is a great concern for grades in this class.

Factor 13: Lecture
*4. Most class time is spent doing other things than listening.
26. [An estimate of the percentage of teacher talk is 60% or above.]

Single Items:

Factor 8: Divergence
17. Students are encouraged to discover as many solutions to problems as possible.

Factor 10: Enthusiasm
19. Students are excited and involved with class activities.

Factor 11: Independence
14. Students are encouraged to independently explore and begin new activities.

Factor 14: Humor
*25. There is very little joking or laughing in this class.

Factor 15: Teacher Talk
26. On the average the teacher talks how much of the time:
90% 75% 60% 40% 25% 10%

Factor 16: Homework
27. On the average, how much time do you spend preparing for class each week?
0 hrs., 1, 1 1/2, 2, 2 1/2, 3, 3 1/2,
4, 4 1/2, 5, more

*Item is reversed for scoring.

Students are also asked to estimate the amount of time they spend preparing for class each week by circling an amount of time ranging in half hour units from zero to more than five hours. Again, the median student response is used to indicate the class estimate.

The teacher is asked to indicate the response he ideally would like the class to give him for all but the last two factors. The teacher's responses are compared to the mean student response to determine the degree of match between intent and practice. For the last two factors (teacher talk and homework), he is asked to make his own estimate of the amount of time he talks and the amount of weekly preparation his students do. The teacher's awareness of his own and students' behavior can be assessed by comparing student and teacher responses.

As in scoring the cognitive factors, a summary score is obtained for all classroom conditions factors except the estimates of teacher talk and preparation. Such a score can be used by teachers or administrators to compare several classes or groups of classes. Thus the significance of differences between groups of classes can be determined for both cognitive and classroom conditions dimensions of the CAQ.

Interpretation

Each of the classroom conditions factors needs to be considered separately and qualified by the nature of the class in question. A course in Spanish calls for somewhat different conditions than a course in American Studies. It does seem to be the case, however, that a negative score on any of the conditions is an indication of an unhealthy climate; an environment that is not conducive to genuine learning. It does seem that a positive

response to the dimensions of divergence, enthusiasm, humor, and discussion suggest strengths conducive to increased motivation and student involvement.

As in the cognitive dimension, the comparison is made between what the instructor would like to occur and what the students see happening. Contradictions need to be explored to determine the reason for the difference in perception. Also, on factors involving matched pairs, inconsistency in instructor response suggests a lack of concern or interest in the particular dimension involved. Such inconsistency generally is reflected in the class response to the factor either as confusing (inconclusive) teacher behavior or negative emphasis on the dimension involved.

IV. STUDENT ATTITUDES AND REACTIONS

The third section of the CAQ provides an opportunity for open-ended responses by students. They are asked to list the three best things about the class from their own point of view. A second question asks what three things they would change about the class if they could. Finally, students are given an opportunity to make any comments they wish.

Scoring Procedures

Open-ended items are difficult to quantify or summarize. One way of processing these questions is to sort the student comments into categories according to the nature of the comment. A category system has been developed by Stephen Lapan that covers relevant dimensions of the classroom situation. Figure 5 shows this classification system. Eight classroom dimensions have been defined. Each dimension* is divided into two subcategories for a total of seventeen categories of student comments about the classroom. An eighteenth category is used to record other topics mentioned that are too general or unclear to classify and for comments that do not pertain to the classroom. Detailed category descriptions are shown in Appendix B.

Interpretation

The classification of comments makes possible the comparison of many classes. It enables one to make generalizations about many groups of students. It also provides one means of comparing the students' comments with other responses about the same class situation. Correlation of category of response with the Cognitive and Classroom Conditions factors of the CAQ may clarify relevant dimensions of the class.

*Except study conditions.

Figure 5

CLASSIFICATION OF STUDENT COMMENTS IN THE CAQ*

Directions: Tally the number of comments that occur in each category for each of the three open-ended questions.

	Best Things	Changes	General
I. PROCESS AND CONTENT			
A. Thought Processes			
B. Subject Matter			
II. PRESENTATION OF CONTENT			
A. Clarity			
B. Stimulating/Challenging			
III. PURPOSE OF CONTENT			
A. Relevant			
B. Preparatory			
IV. STUDY CONDITIONS			
A. Pace and Schedule			
B. Workload			
C. Self-initiated Activities			
V. CLASS OPPORTUNITIES			
A. Facilities and Materials			
B. Activities			
VI. TEACHER BEHAVIOR			
A. Group Atmosphere			
B. Individual Acceptance			
VII. INTELLECTUAL ENVIRONMENT			
A. Teacher Competence			
B. Student Competence			
VIII. EVALUATION PROCEDURES			
A. Measures			
B. Products			
IX. OTHER TOPICS			

*Developed by Stephen Lapan

Any classification system, however, oversimplifies a complex collection of events and ignores dimensions not appropriate to the logic of the system. Since this set of categories is not based upon a theoretical model, it would be unwise to place too much weight on these categories. Results should be considered as indicating trends rather than revealing actual patterns of student comments. Within the limits of the category system, it may be possible to discover whether the students are oriented to specific dimensions of the class.

Another way of treating student comments is more subjective but perhaps provides more meaningful information. This is simply to read through the set of class comments and consider them in the context of the other findings of the CAQ. The comments in themselves represent mini-interviews of the students on limited aspects of the class. Other data, such as observations of the class that may be available, should also be taken into consideration in the overall assessment of the class.

V. STATISTICAL ANALYSIS OF THE CAQ

The Class Activities Questionnaire is an adaptation and revision of the Cognitive Abilities Rating Scale developed on the college level as part of an evaluation procedure to assess congruence of intent and practice in instruction.* Cognitive items were shown to be consistently identified with the appropriate level of the Taxonomy of Intellectual Abilities.

Extensive field testing was conducted in developing the 25 forced-choice items used in the CAQ. Interviews with students were conducted to ascertain that all words used were understood and statements appropriately interpreted. Grade six was determined to be the lowest grade level at which the CAQ provided reliable data. All items were intercorrelated and paired items showed acceptably high relationships with each other. Factors were in general appropriately related.

A principal component factor analysis of the forced-choice items was conducted. Varimax rotation produced ten factors accounting for 62% of the variance in the sample studied (N = 2071). (See Appendix C.) The statistical factors provide substantial support for the logical construction of the instrument. Figure 6 shows the relationship of the statistical factors to the theoretical structure. In no case did individual members of paired items load separately on factors. The two items in the logical dimension of Evaluation did fall out as separate factors but were not related to any other items. This does not seriously affect the pairing of these items, however, as they both clearly do pertain to evaluation. It is highly

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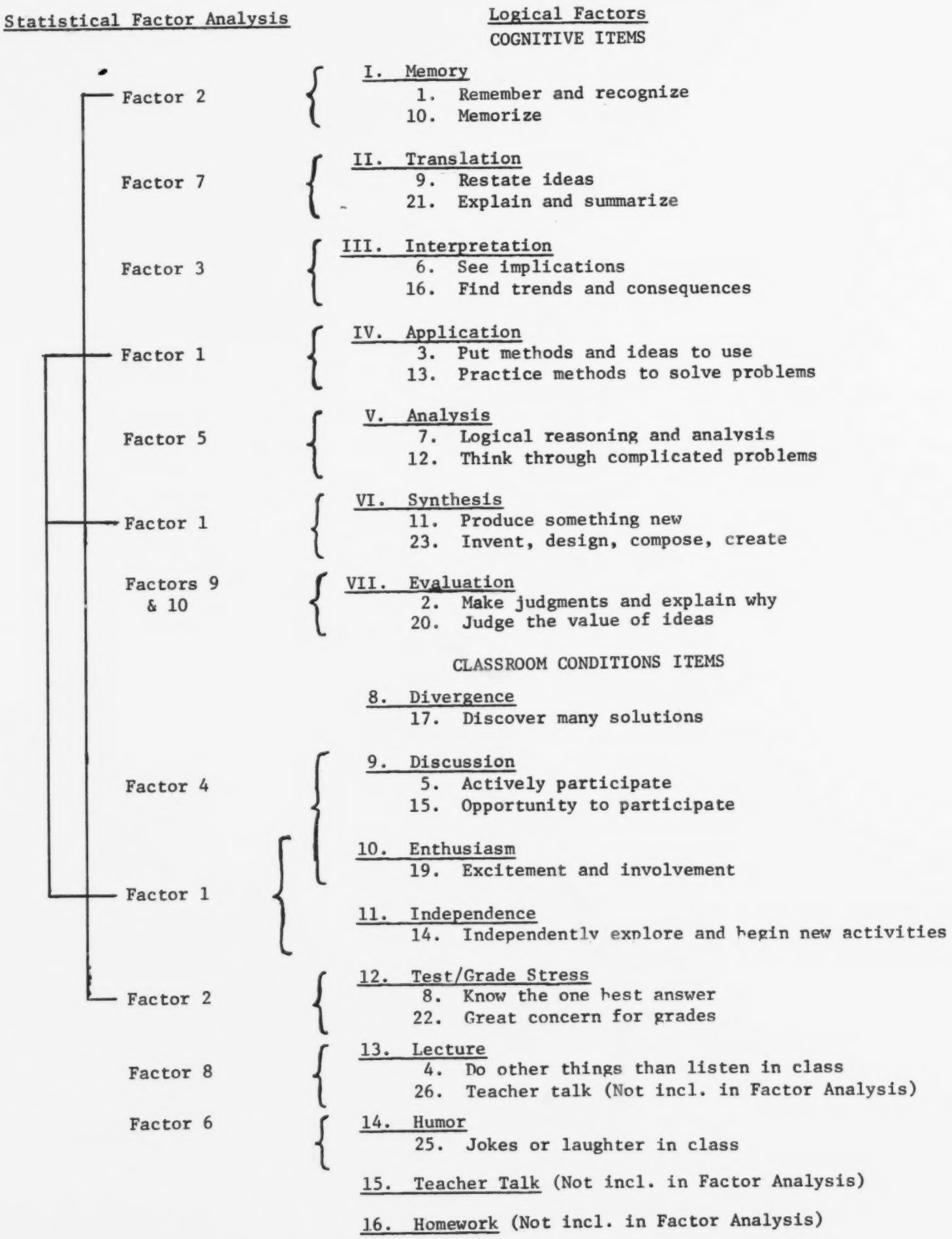
*Joe M. Steele, Things As They Are: An Evaluation Procedure to Assess Intent and Practice in Instruction. Unpublished doctoral dissertation, Urbana: University of Illinois, 1969.

Figure 6

RELATIONSHIP OF THE STATISTICAL AND LOGICAL FACTORS OF THE CAQ



appropriate that the logical dimensions of Memory and Test/Grade Stress are related. It is also quite reasonable to find a relationship between cognitive levels of Application and Synthesis coupled with the noncognitive dimensions of enthusiasm and independent exploration. The logical factor of Divergence is based on one item which did not load on any of the ten factors produced by factor analysis.

Reliability of the rating scale was estimated using split-half correlation of matched pairs of items. The Spearman-Brown Prophecy formula was used to correct for length. Reliability coefficients were derived for both cognitive and classroom conditions dimensions of the CAQ. In the eighty-eight classes studied the cognitive dimension showed reliability coefficients of .60 and above in 65% of the classes. For classroom conditions 61% of the classes showed coefficients of .60 and above. (Only about 20% of the classes had obtained coefficients below .50 while about 40% of the classes had obtained coefficients above .70.) These levels of reliability coefficients are considered quite acceptable.

It should be pointed out that due to the method of scoring a more relevant indicator of test reliability is the degree of consensus in responding to paired items. Figure 7 shows the percentage of students giving consistent responses to paired cognitive items. As can be seen, six of the seven cognitive factors received consistent responses from approximately two-thirds or more of the students. The lack of consistence in response to the Memory factor indicates lower reliability for this cognitive level and suggests that it is not as strongly defined as the others. Approximately two-thirds or more of the students were also consistent in their responses to the Classroom Conditions factors.

Figure 7

PERCENTAGE OF STUDENTS RESPONDING CONSISTENTLY TO PAIRED ITEMS IN THE CAO

Cognitive Factors		2071 Students Responding to the CAQ
Memory	I	43%
Translation	II	68%
Interpretation	III	72%
Application	IV	64%
Analysis	V	74%
Synthesis	VI	61%
Evaluation	VII	63%

Classroom Conditions Factors		
Discussion	9	79%
Test/Grade Stress	12	61%
Lecture	13	62%

Thus, although one factor is seen to be less reliable than the others, all factors are judged to supply meaningful information. The CAQ has been found to reveal clear-cut variations in emphasis in both cognitive and non-cognitive domains both within and across instructional groups.

In addition to the substantial statistical support provided by the factor analysis and other forms of analysis, evidence validating the dimensions of the CAQ may soon be available. Extensive descriptive and observational data have been collected for many classes in which the CAQ was administered. Preliminary analysis of this data suggests that the profiles of emphasis indicated by the CAQ are in fact the emphasis that exists in those classes. No contradictory information has been found that would tend to invalidate the CAQ findings. While a full analysis of the criterion data remains to be completed, strong support is already evident for the validity of the Class Activities Questionnaire.

APPENDIX A

CLASS ACTIVITIES QUESTIONNAIRE

For each sentence below, circle the letters which show the extent to which you AGREE or DISAGREE.

Base your answer on how well each sentence describes what is stressed in your class--what your teacher has you do.

Circle	SA	If you STRONGLY AGREE with the sentence
Circle	A	If you AGREE moderately with the sentence
Circle	D	If you DISAGREE moderately with the sentence
Circle	SD	If you STRONGLY DISAGREE with the sentence

1. Remembering or recognizing information is the student's main job.	SA	A	D	SD
2. A central activity is to make judgments of good/bad, right/wrong, and explain why.	SA	A	D	SD
3. Students actively put methods and ideas to use in new situations.	SA	A	D	SD
4. Most class time is spent doing other things than listening.	SA	A	D	SD
5. The class actively participates in discussions.	SA	A	D	SD
6. Students are expected to go beyond the information given to see what is implied.	SA	A	D	SD
7. Great importance is placed on logical reasoning and analysis.	SA	A	D	SD
8. The student's job is to know the one best answer to each problem.	SA	A	D	SD
9. Restating ideas in your own words is a central concern.	SA	A	D	SD
10. Great emphasis is placed on memorizing .	SA	A	D	SD
11. Students are urged to build onto what they have learned to produce something brand-new.	SA	A	D	SD
12. Using logic and reasoning processes to think through complicated problems (and prove the answer) is a major activity.	SA	A	D	SD
13. A central concern is practicing methods in life-like situations to develop skill in solving problems.	SA	A	D	SD
14. Students are encouraged to independently explore and begin new activities.	SA	A	D	SD
15. There is little opportunity for student participation in discussions.	SA	A	D	SD

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16. Students are expected to read between the lines to find trends and consequences in what is presented. SA A D SD

17. Students are encouraged to discover as many solutions to problems as possible. SA A D SD

18. Detailed examination of ideas and conclusions is a major activity. SA A D SD

19. Students are excited and involved with class activities. SA A D SD

20. The student's major job is to make judgments about the value of issues and ideas. SA A D SD

21. Great importance is placed on explaining and summarizing what is presented. SA A D SD

22. There is a great concern for grades in this class. SA A D SD

23. Inventing, designing, composing, and creating are major activities. SA A D SD

24. Students mainly compare ideas to find likenesses and differences. SA A D SD

25. There is very little joking or laughing in this class. SA A D SD

Did you circle an answer for each question?

26. On the average, the teacher talks how much of the time: 90% 75% 60% 40% 25% 10%

27. On the average, how much time do you spend preparing for this class each week? (circle the time spent)

0 ½hr. 1hr. 1½hrs. 2hrs. 2½hrs. 3hrs. 3½hrs. 4hrs. 5hrs. more.

28. List the three best things about this class, from your own point of view:

1)_____

2)_____

3)_____

29. If you could change three things about the class, what would they be?

1)_____

2)_____

3)_____

COMMENTS: If you have any comments, please write them on the back of this page.

APPENDIX B

ANALYSIS OF STUDENT COMMENTS: CATEGORY DEFINITIONS

I. Process and Content: How the student views the level of thought and nature of the subject matter.

   A. Thought Process: Does the student think the process is rational, logical, divergent, complex, judgmental, or qualitative OR does he view it as irrational, illogical, convergent, simple, absolutistic, or quantitative.

   B. Subject Matter: Does the student find the subject matter comprehensive, conceptual or idea-oriented OR does he find it isolated, specific, or fact-oriented.

II. Presentation of Content: How the student regards the content as it is presented to him.

   A. Clarity: As it is being presented does the student believe the content to be understandable, communicable, organized, or concise OR does the student believe it to be misunderstood, misinterpreted, disorganized, or cumbersome.

   B. Stimulating/Challenging: As it is being presented does the student find it interesting, exciting or generally provocative OR does he find it boring, dull, or generally "old repetitive stuff".

III. Purpose of Content: How the student views the reason and rationale for the use of this particular content.

   A. Relevant: As the student appraises the content does he find it topical, current, or presently applicable OR does he find it unfitting, out-of-date, or presently inapplicable.

   B. Preparatory: As the student appraises the content does he find it a prerequisite, basic to future study, or basic to vocation OR does he find it not a prerequisite, not helpful for future study, or not basic to vocation.

IV. Study Conditions: How the student views the speed and amount of work to be completed.

   A. Pace and Schedule: Does the student view the material and work as being fast moving, ahead of other groups, related to how fast the individuals in the class can work, or well scheduled OR does he view it as being slow moving, similar to other groups, the same pace for the whole class or poorly scheduled.

B. Workload: Does the student view the material and work as being not too much for available school time, a similar amount as to what other groups do or adequate as a homework assignment OR does he view it as being too much for school time, more than other groups, or too much for homework.

C. Self-initiated activities: Does the student have the freedom to choose what activities he will pursue OR is he always told what to do and when to do it.

V. Class Opportunities: How the student reacts to class options or alternatives available to him.

A. Facilities and Materials: Does the student feel that the equipment, space, or materials are adequate, available, or there for his choosing OR does he feel they are limited, controlled, or dispensed by someone.

B. Activities: Does the student find the activities fun, interesting, or what he likes to do OR does he find the activities uninteresting, or feel that they should be changed.

VI. Teacher Behavior: How does the teacher conduct and manage the class.

A. Group atmosphere: Does the student describe the class as containing discussions, interplay between students, or open, informal activities include humor OR does it contain few discussions, mostly teacher control, or a closed, formal atmosphere.

B. Individual acceptance: Does the student describe the teacher as supporting, rewarding, or believing in individual students OR does he describe him as being aloof, impersonal, or rejecting individual students.

VII. Intellectual Environment: How does the student view the teacher and/or other students in terms of intellectual behavior.

A. Teacher competence: Does the student view the teacher as being highly qualified, smart or intelligent OR does he view the teacher as average, below average or not really qualified.

B. Student competence: Does the student view the other students as being smart, willing to learn, or a faster group OR does he view the other students as being dull, trouble-making, or not willing to learn.

VIII. Evaluation Procedures: How does the student view the manner in which his work is judged.

A. Measures: Does the student describe the tests, quizzes, or other performance tasks as being representative of his ability, fair, the right amount given, or the proper emphasis given OR does he describe them as being inappropriate measures, unfair, too many or too few, or given too much or too little emphasis.

B. Products: Does the student describe projects, homework, or other material to be judged as emphasized appropriately, judged fairly, or representative of his ability OR does he describe them as inappropriately emphasized, unfairly judged, or not representative of his ability.

IX. Other Topics: Comments which do not relate to any of the categories above, and those which are too general or confusing to classify.

APPENDIX C

PRINCIPAL COMPONENT FACTOR ANALYSIS OF THE CLASS ACTIVITIES QUESTIONNAIRE
(Varimax rotation produced 10 factors accounting for 62% of the variance.)

Factor 1: Application, Synthesis and Involvement
- 3. Students actively put methods and ideas to use in new situations.
- 11. Students are urged to build onto what they have learned to produce something brand-new.
- 13. A central concern is practicing methods in lifelike situations to develop skill in solving problems.
- 14. Students are encouraged to independently explore and begin new activities.
- 19. Students are excited and involved with class activities.
- 23. Inventing, designing, composing, and creating are major activities.

Factor 2: Stress on memorizing and test performance
- 1. Remembering or recognizing information is the student's main job.
- 8. The student's job is to know the one best answer to each problem.
- 10. Great emphasis is placed on memorizing.
- 22. There is a great concern for grades in this class.

Factor 3: Interpretation
- 6. Students are expected to go beyond the information given to see what is implied.
- 16. Students are expected to read between the lines to find trends and consequences in what is presented.

Factor 4: Discussion Opportunity and Involvement
- 5. The class actively participates in discussions.
- 15. There is little opportunity for student participation in discussions.
- 19. Students are excited and involved with class activities.

Factor 5: Analysis
- 7. Great importance is placed on logical reasoning and analysis.
- 12. Using logic and reasoning processes to think through complicated problems (and prove the answer) is a major activity.

Factor 6: Humor
- 25. There is very little joking or laughing in this class.

Factor 7: Translation
- 9. Restating ideas in your own words is a central concern.
- 21. Great importance is placed on explaining and summarizing what is presented.

Factor 8: Student role-listening versus doing
- 4. Most class time is spent doing other things than listening.

Factor 9: Awareness of value judgment
- 2. A central activity is to make judgments of good/bad, right/wrong, and explain why.

Factor 10: Evaluation
- 20. The student's major job is to make judgments about the value of issues and ideas.